Acquiring Capabilities

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Dr. Glenn F. Lamartin
Director, Defense Systems
Office of the Under Secretary of Defense
Acquisition, Technology and Logistics

Current Situation What We Need to Do Better

Requirements

- Adapting to changing conditions
- Matching operational needs with solutions
- Overcoming biases of Services and others
- Moving to transform military

PPBES

- Laying analytical foundation for budget
- Aligning budgets with acquisition decisions

Personnel and Readiness

Acquisition

- Acquiring systems-of-systems
- Making system decisions in a joint, mission context
- Transitioning technology
- Assessing complexity of new work and ability to perform it
- Controlling schedule and cost
- Passing operational tests
- Ensuring a robust industrial base

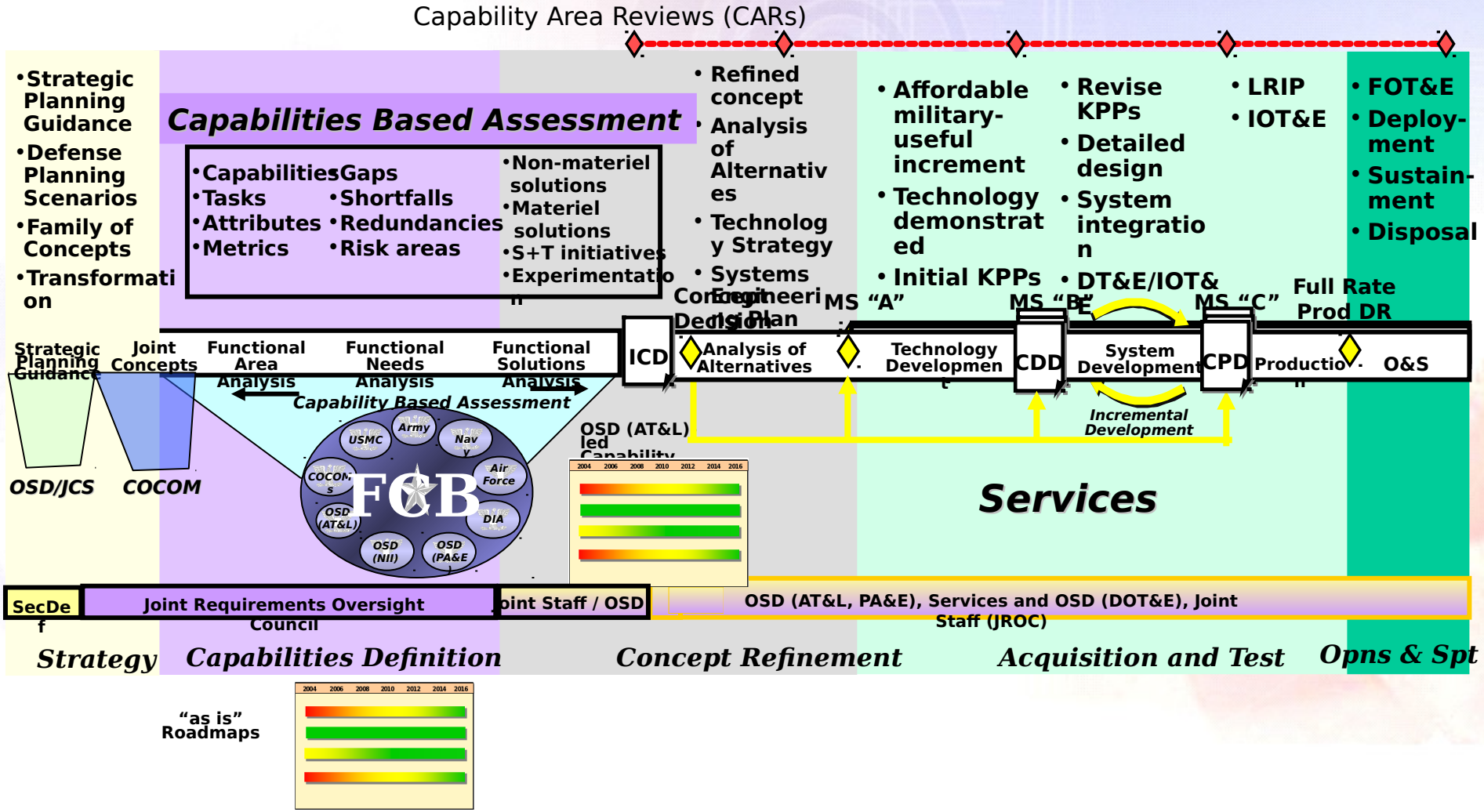
Sustainment

- Controlling O&S costs
- Reducing logistics tails

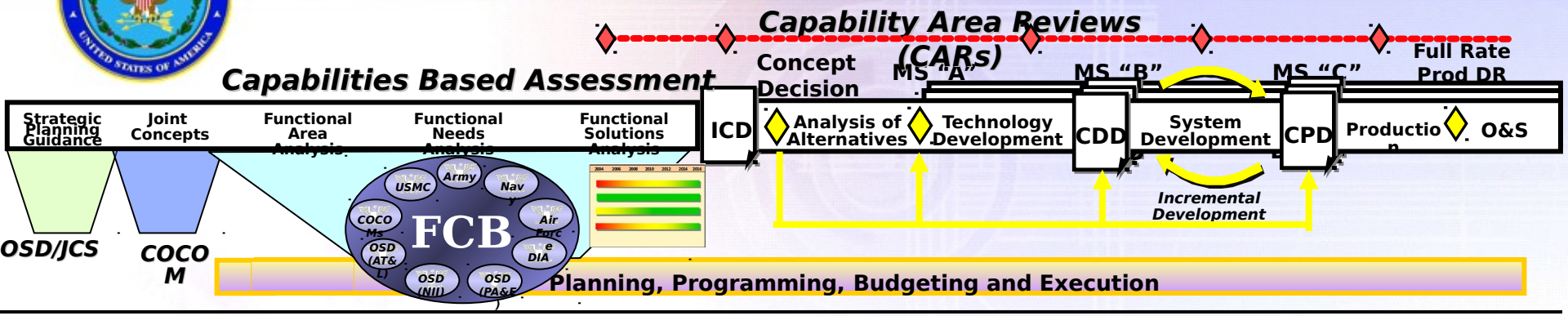
A Capabilities Approach to Acquisition

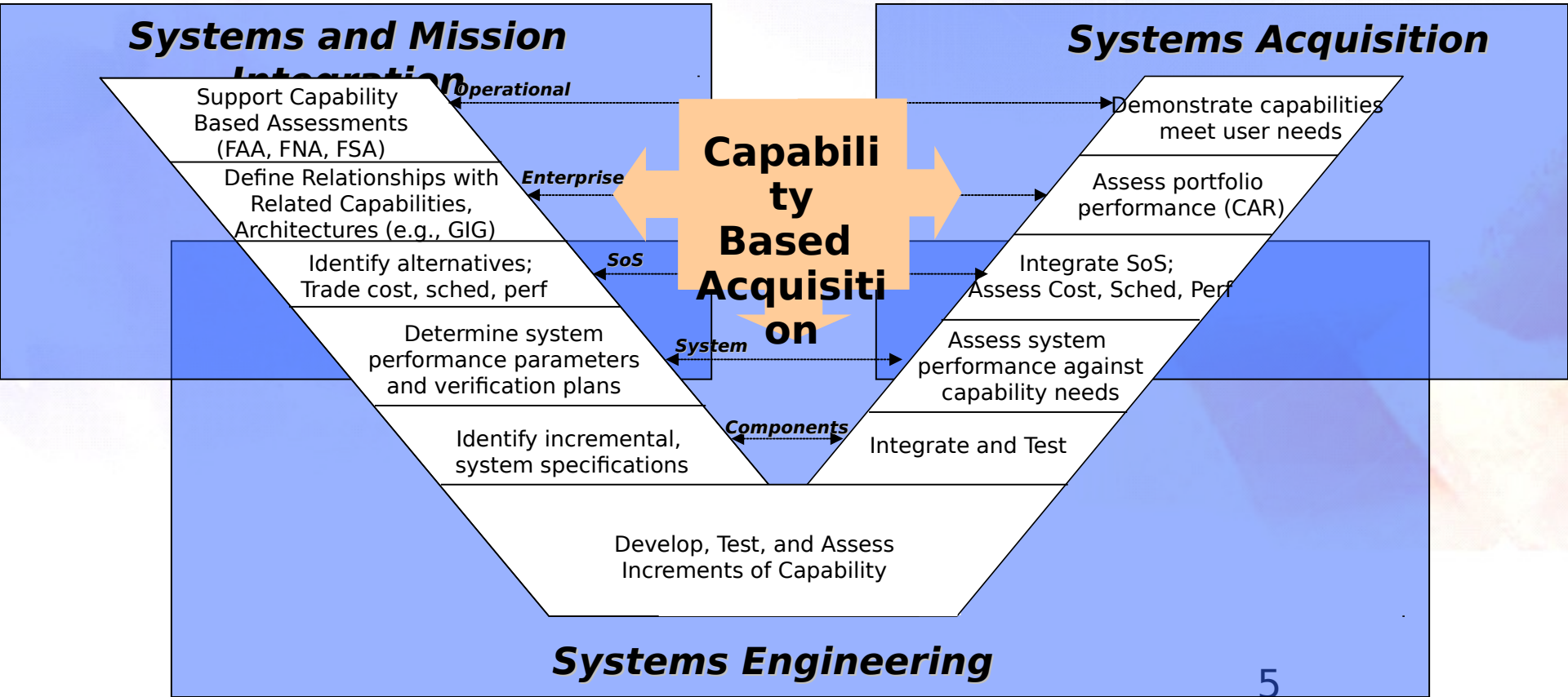
- **Extend focus beyond individual system acquisition**
- **Apply a capabilities-based approach**
  - **Make decisions on systems within a capabilities context**
  - **Engineer the relationships across the set of systems that together satisfy the need**
  - **Synchronize the interaction among FoS/SoS to satisfy multiple capabilities**
- **Influence other key Department processes**
  - **Shape strategic guidance**
  - **Inform development of joint concepts and requirements**
  - **Balance programming guidance**

DoD End-to-End Capabilities Based Planning Process



Acquisition Engagement




Systems and Mission Integration
Systems Acquisition
Operational
Support Capability Based Assessments (FAA, FNA, FSA)
Demonstrate capabilities meet user needs
Enterprise
Define Relationships with Related Capabilities, Architectures (e.g., GIG)
Assess portfolio performance (CAR)
SoS
Identify alternatives; Trade cost, sched, perf
Integrate SoS; Assess Cost, Sched, Perf
System
Determine system performance parameters and verification plans
Assess system performance against capability needs
Components
Identify incremental, system specifications
Integrate and Test
Develop, Test, and Assess Increments of Capability
Capability Based Acquisition
Systems Engineering

Key Activity: Capability Area Reviews

USD(AT&L), as DAE, leads reviews of select capability areas to:

- **Provide mission area context – from a top-down perspective**
- **Implement capability-based methodology on provider side**
- **Link policy, capability generation, acquisition, and budget processes**
- **Identify joint solutions and added work to be done (across DOTMLPF)**
- **Reveal need for management, engineering, and testing across an area**
- **Help align individual program expectations**
- **Provide basis to set metrics and gauge progress over time**
- **Assess the cumulative effect of individual program decisions**

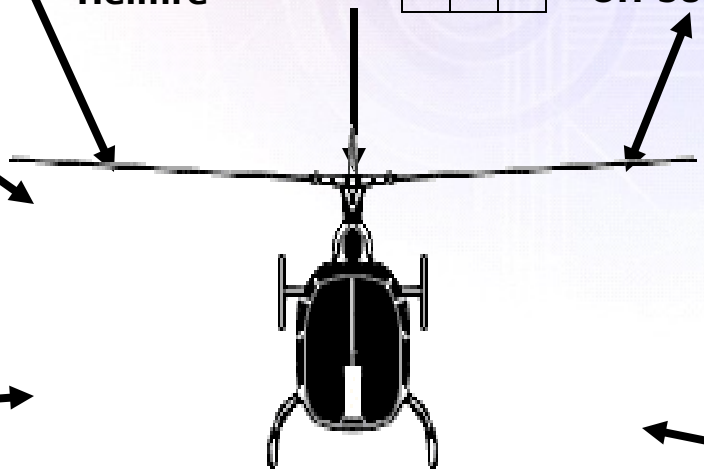
Key Activity: Roadmaps and Roadmapping

Roadmaps provide a framework for decision making – prompt discussion, inform decisions, and capture decisions made

- **Lay out Department's strategic plan considering:**
  - **Materiel and non-materiel solutions**
  - **Capability that only exists at Family/System-of-Systems level**
  - **What to expect from each system**
  - **Cross-cutting management, engineering, and testing**
  - **Network enablers**
  - **Affordability**
- **Nature of Roadmaps will vary by topic**
- **Start with the "as is" and show where we want to go**

But… must balance decisions across capability areas

Key Activity: System Decisions in Context



Supporting Platforms:

Air Complementary Platforms:

- C-17A
- C-130J
- C-5

Ground Complementary Platforms

- AH-64
- UH-60
- CH-47
- A2C2S

- Land Warrior
- M-1 Tank
- M-2 Bradley
- Fire Support
- Stryker
- FCS

Hosting Platforms

- LHA/D

Weapons:

- .50 cal/7.62 mm Guns
- 2.75” Rockets
- Hellfire

Armed Reconnaissance Helicopter

Replacing:

- OH-58D

Net Centric Warfare:

- IDM
- BFT
- Have Quick
- SATCOM
- SINCGARS
- JTRS (Cluster 1)
- Link-16 (w/JTRS)

ISR:

- JSTARS
- AWACS
- GPS
- AMPS
- ABCS

apability Area: FORCE APPLICATION

oadmaps: Army Aviation Modernization Plan

IOSA Rating: Satisfactory

Current schedule and performance support fielding

Performance issues with interface

Performance and schedule coordination required for future systems

Arrow to ARH denotes receiving other program’s technology or capability

Arrow from ARH denotes technology or capability

SOLID DENOTES CURRENT SYSTEM

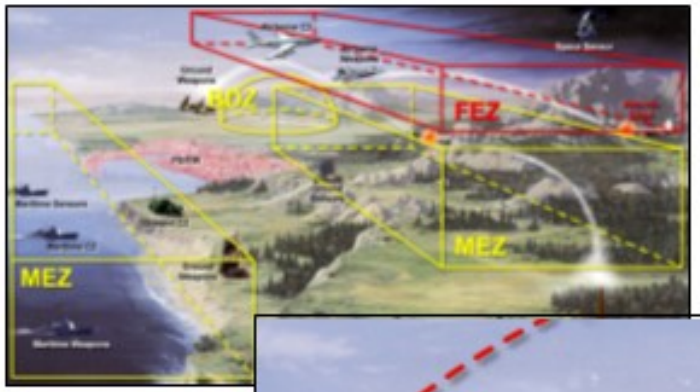
DASH DENOTES FUTURE SYSTEM

OSD DAES Rating: C S P Not Rated Fielded

System-of-Systems (SoS) Systems Acquisition Functions

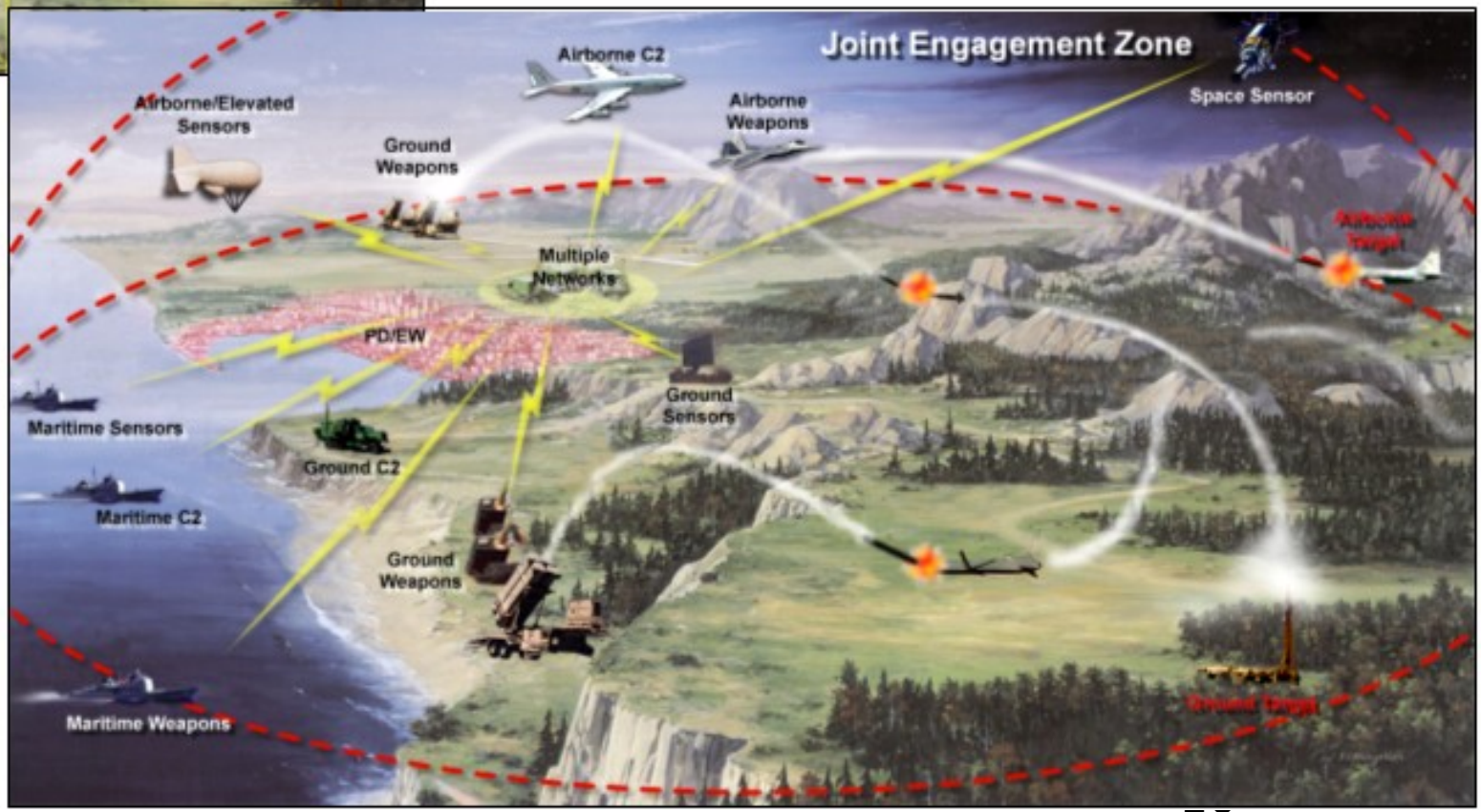
- **Align expectations of AT&L, the Joint Staff and the Services for joint capability to be fielded over time (requirements, etc)**
- **Synchronize efforts/programs across the Services to produce the desired capabilities (e.g., development activities, testing)**
- **Conduct systems engineering and integration across Service and joint programs to ensure interoperability**
- **Develop and execute properly phased and focused test and evaluation plans for SoS components and overall joint capability**
- **Establish mechanism for allocating resources among component programs and activities – including making needed tradeoffs**
- **Coordinate activities in all the DOTMLPF areas, to create the enablers associated with fielding a**

SoS Example: Integrated Air and Missile Defense Challenges



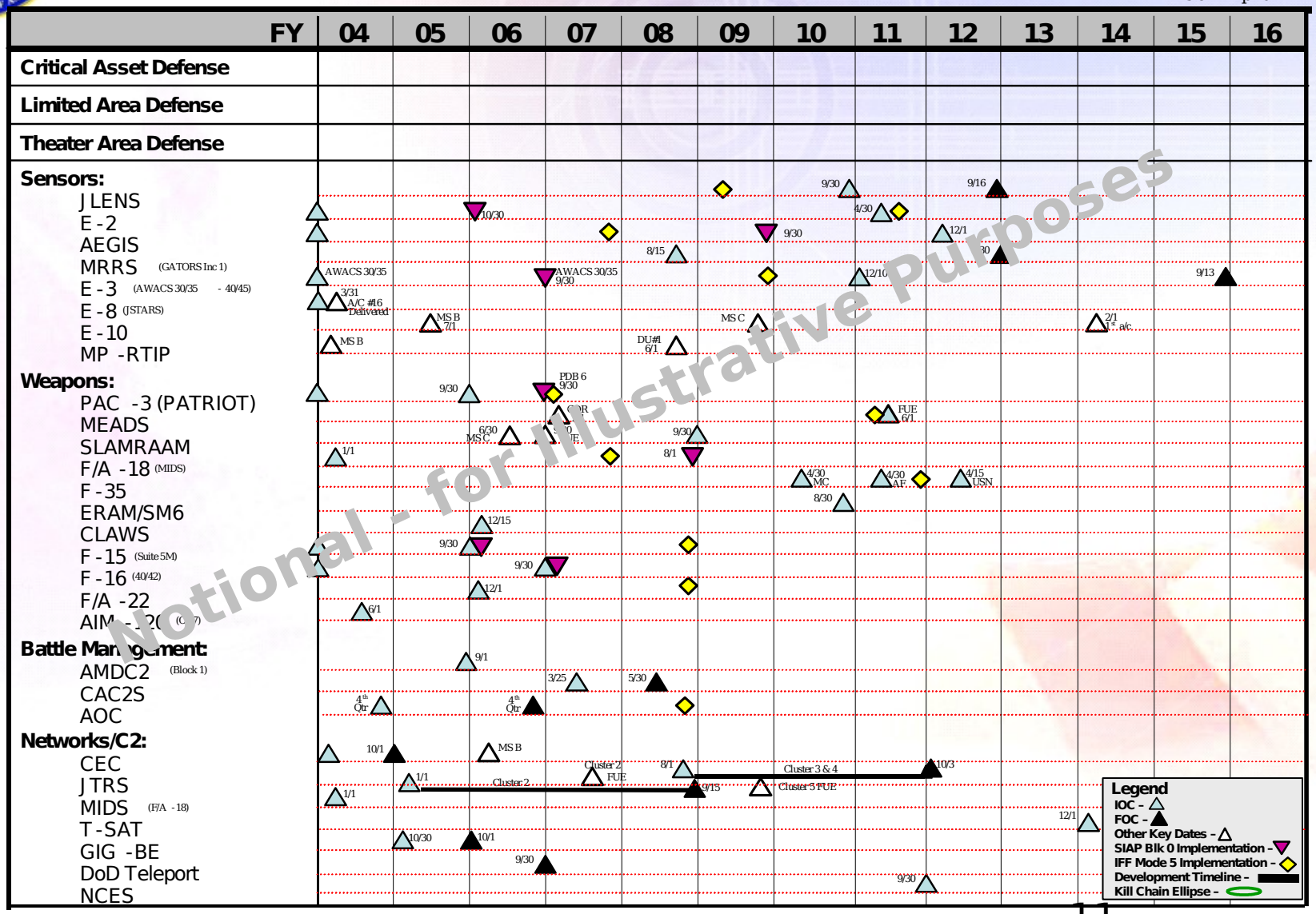
2010 Joint Engagement Zone

- ❑ Single Integrated Air Picture
- ❑ Combat ID
- ❑ Integrated Fire Control
- ❑ Automated Battle Management Aids



SoS Example: Integrated Air and Missile Defense Roadmap

As of 1 Apr 04



Notional - for Illustrative Purposes

*Version 1

Current Challenges

- **Plan for a budget constrained environment and impact on potential solutions – new vs. re-engineered vs. DOTMLPF**
- **System complexity and interdependency is increasing – Family of Systems and System of Systems interdependencies**
- **Balancing joint needs with cost and schedule**
- **Demand for network centric capability drives higher levels of program coordination**
- **Development of capabilities that do not fit well in current management structures**
- **Effective application of systems engineering to streamline acquisition process and meet performance objectives**
- **Maintaining an expert workforce, trained for the above challenges**